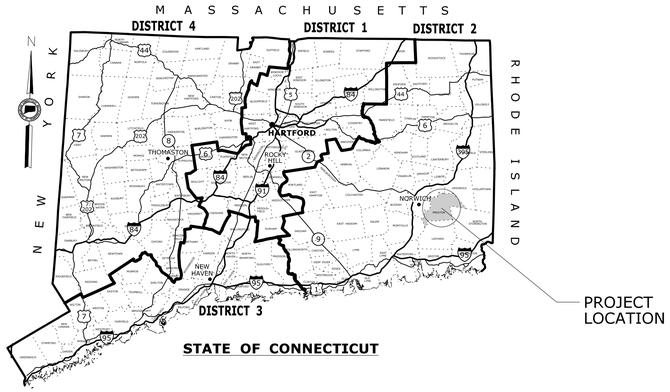
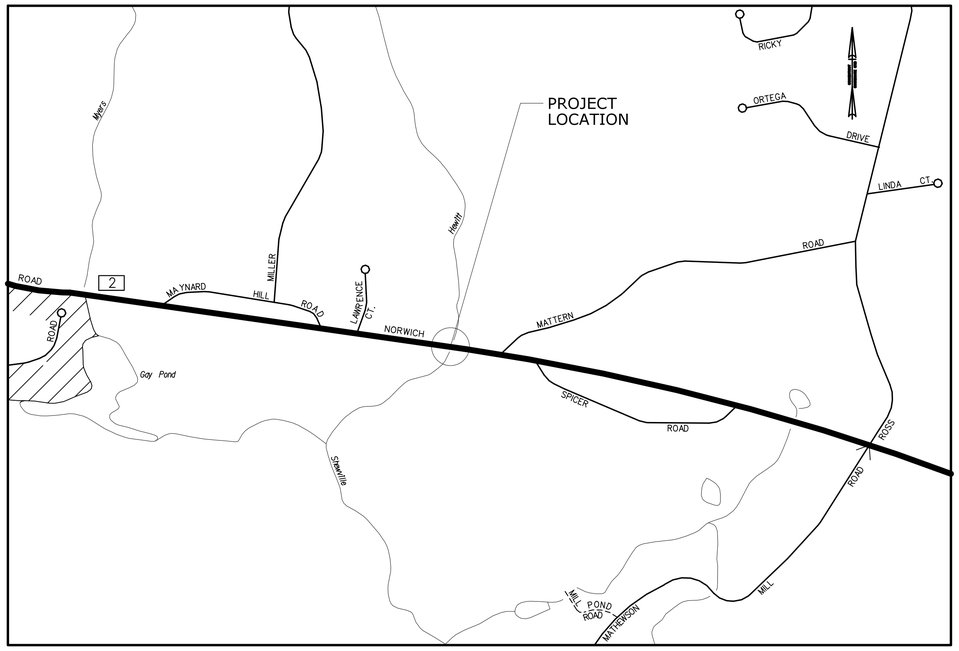


STATE OF CONNECTICUT

ENVIRONMENTAL PERMIT PLANS
STATE PROJECT NO. XXXX-XXXX
REPLACEMENT OF BRIDGE NO. XXXXX
IN THE TOWN OF _____



LOCATION PLAN

1" = 500'

SAMPLE PROJECT USED FOR PLANS

The following sample project involves replacing an existing large pipe with a three-sided (open bottom) culvert. The project is planned to be constructed in 3 stages. A water handling pipe will be used and placed within the existing pipe. This project involves a roadway overbuild in the staging, therefore, an access road is not needed for construction of the project.
The following permits are anticipated for this project:
DEEP Inland Water Resources Division Flood Management Certification (IWRD FMC)
General Permit for Water Resource Construction Activities (IWRD GP)
US Army Corps of Engineers Category 1 (USACE Cat 1)

For this sample project, the cofferdam was designed using a 2-year frequency discharge. The culvert was designed for a 100-year storm. The sample project falls within a mapped FEMA area with no elevation provided on the FEMA map. A 100-year storm elevation (existing) has been calculated and this elevation is used in determining the floodplain impact area. An 8 1/2" x 11" FEMA map is provided within the permit application.

Impact areas include ALL areas to be impacted due to the project construction and activities related to the project, both temporary and permanent. On this project, additional impact area was included to allow the contractor to utilize different methods and equipment. Engineering judgement should be used to determine the amount of area the contractor needs to perform the work, while trying to minimize the disturbance to the wetland resources. The designer should also evaluate utility work needed as part of the project and include any impacts due to project related utility work.

NOTE: This sample project has been altered from the actual project to produce this sample set of plans.

GENERAL NOTES:

1. THESE PLANS ARE INTENDED ONLY FOR ENVIRONMENTAL PERMITTING PURPOSES. THESE PLANS HOLD AUTHORITY FOR ALL ACTIVITIES CONCERNING THE REGULATED AREA. FOR DETAILED PLANIMETRIC INFORMATION AND PAYMENT REFER TO THE APPLICABLE CONTRACT DOCUMENTS.
2. THE DEPARTMENT OF TRANSPORTATION WILL ONLY SUBMIT REVISIONS TO DEEP AND USACE FOR CHANGES TO THE DESIGN THAT WILL AFFECT REGULATED AREAS.
3. FOR A DESCRIPTION OF THE WATERCOURSES, WETLANDS AND WETLAND SOILS SEE RELEVANT SECTIONS OF THE PERMIT APPLICATION.
4. 400 FOOT GRID BASED ON CONNECTICUT COORDINATE SYSTEM N.A.D. 1927 VERTICAL DATUM BASED ON NGVD OF 1929.
5. ALL CONSTRUCTION ACTIVITIES WILL BE CONDUCTED IN ACCORDANCE WITH THE DEPARTMENT'S STANDARD SPECIFICATIONS FOR ROADS, BRIDGE, AND INCIDENTAL CONSTRUCTION, FORM 816, SECTION 1.10 AND WILL ALSO FOLLOW BEST MANAGEMENT PRACTICES (BMPs) AND SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE 2002 EROSION & SEDIMENTATION CONTROL GUIDELINES AND THE 2004 STORMWATER QUALITY MANUAL.

GUIDE FOR THE DEVELOPMENT OF THE PERMIT PLAN SET

TITLE SHEET:

1. LOCATION PLAN AT AN APPROPRIATE SCALE THAT SHOWS PROJECT LOCATION AND NEARBY CROSS STREETS (EX. 1"=500', 1"=1000'). FOR LATERAL PROJECTS, DEPICT BEGINNING AND END OF PROJECT (PROJECT LIMITS).
2. STATE OF CONNECTICUT MAP WITH TOWN SHADED AND CALL-OUT PROJECT LOCATION
3. GENERAL INDEX FOR "LIST OF DRAWINGS"
4. GENERAL NOTES 1-5 (ADDITIONAL NOTES MAY BE ADDED AS APPROPRIATE FOR THE PROJECT)
5. SIGNATURE BLOCK FOR CONSULTANT ENGINEER, IF NEEDED.
6. PLAN DATE (LATEST REVISION DATE OF SHEET. DATES DO NOT NEED TO MATCH WITHIN PLAN SET)

ON ALL OTHER PLAN VIEWS:

1. WETLAND LIMITS BOLD (NOT SCREENED)
2. SHOW CUT/FILL LIMITS AND SEDIMENTATION CONTROL SYSTEM (SCS). (SCS NOT NECESSARY ON PLANTING PLAN)
3. SHOW ORDINARY HIGH WATER (OHW)
4. SHOW FLOOD LIMIT LINES ON PLAN VIEWS
   A) CALCULATED ELEVATION ON A FEMA MAP GOVERNS. LABEL "FEMA 100-YR FLOOD (CALCULATED)"
   B) OTHERWISE, SHOW HYDRAULIC ANALYSIS ELEVATION. LABEL "EXISTING 100-YR FLOOD (CALCULATED)"
   C) IF NO CALCULATIONS WERE PERFORMED, SHOW MAPPED FEMA LINES. LABEL "MAPPED FEMA 100-YR FLOOD LIMIT"
5. FLOW ARROWS (EXISTING AND PROPOSED)

NOTE: FOR ADDITIONAL ENVIRONMENTAL INFORMATION, SEE ALSO THE DEPARTMENT'S OFFICE OF ENVIRONMENTAL PLANNING'S PERMIT PLAN CHECKLIST FOUND ON THE WATER & NATURAL RESOURCES WEBPAGE UNDER "PERMITTING PROCESS"

LIST OF DRAWINGS	
DRAWING NO.	DRAWING TITLE
PMT-01	TITLE SHEET
PMT-02	GENERAL SITE PLAN
PMT-03	WETLAND/WATERCOURSE IMPACT PLAN
PMT-04	100-YEAR FLOOD IMPACT PLAN
PMT-05	ELEVATIONS & SECTION PLAN
PMT-06	STAGING AND WATER HANDLING PLAN
PMT-07	PERMIT PLANTING PLAN

BLOCK FOR CONSULTANT STAMP AND SIGNATURE

DESIGNED BY:

PLAN DATE: APRIL 4, 2016

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/7/2016

DESIGNER/DRAFTER:

CHECKED BY:

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\TITLE SHEET - Proj XXX.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. XXXXX ROUTE X OVER A BROOK

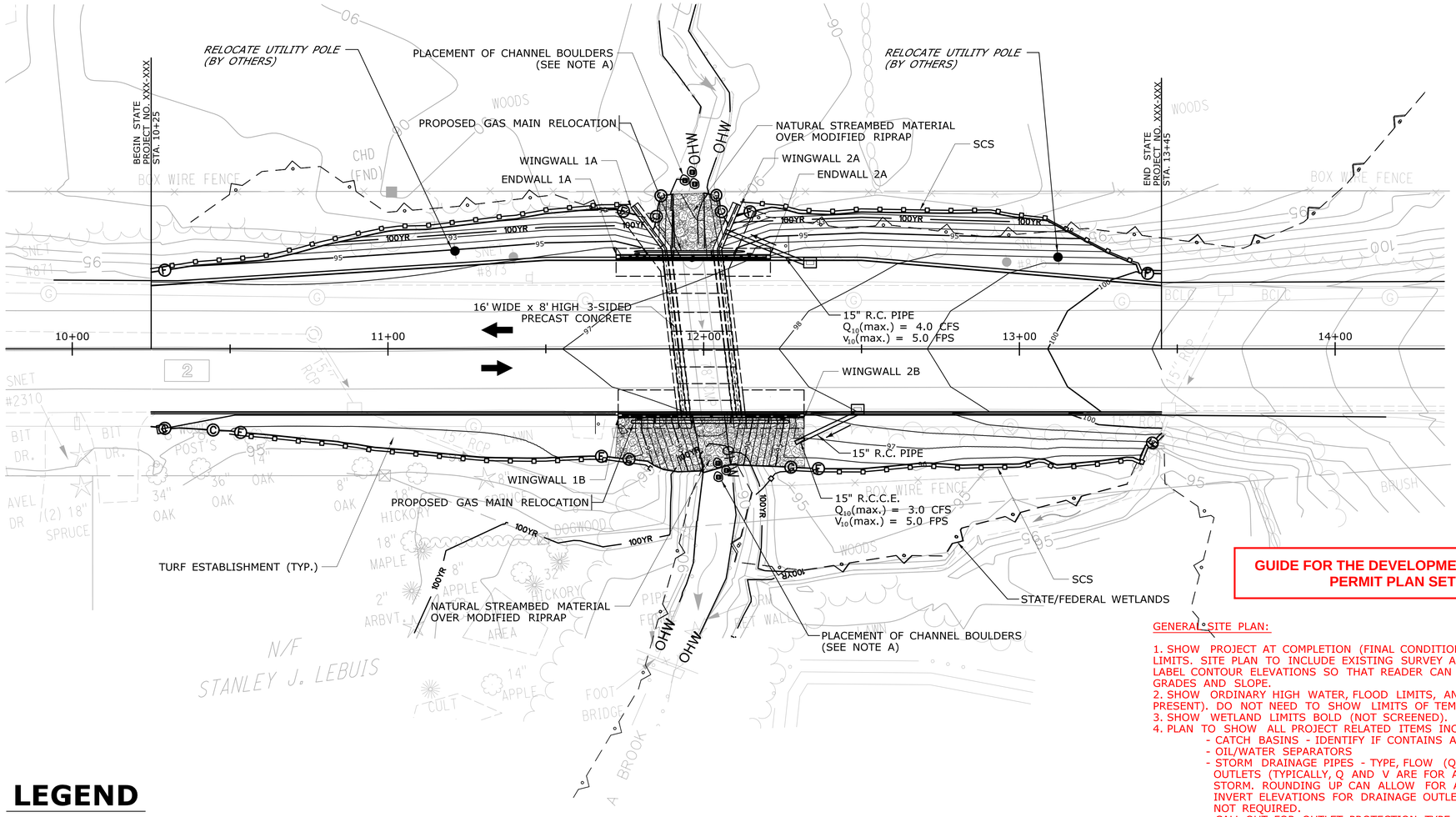
TOWN:
TOWN

DRAWING TITLE:
TITLE SHEET

PROJECT NO.
XXX-XXX

DRAWING NO.
PMT-01

SHEET NO.



LEGEND

- 100YR — EXISTING 100-YEAR FLOOD (CALCULATED)
- OHW — ORDINARY HIGH WATER (OHW)
- STATE/FEDERAL WETLANDS
- SEDIMENTATION CONTROL SYSTEM (SCS)

NOTE A

LARGE BOULDERS APPROXIMATELY 2 FEET DIAMETER SHALL BE PLACED IN TWO SEPARATE CLUSTERS, AS DIRECTED IN THE FIELD BY DEEP FISHERIES/OEP STAFF. SEE SPECIAL PROVISION "PLACEMENT OF CHANNEL BOULDERS."

GENERAL SITE PLAN

GUIDE FOR THE DEVELOPMENT OF THE PERMIT PLAN SET

GENERAL SITE PLAN:

1. SHOW PROJECT AT COMPLETION (FINAL CONDITION) AND IDENTIFY PROJECT LIMITS. SITE PLAN TO INCLUDE EXISTING SURVEY AND PROPOSED CONTOURS. LABEL CONTOUR ELEVATIONS SO THAT READER CAN CLEARLY UNDERSTAND GRADES AND SLOPE.
2. SHOW ORDINARY HIGH WATER, FLOOD LIMITS, AND FLOODWAY (IF PRESENT). DO NOT NEED TO SHOW LIMITS OF TEMPORARY DESIGN STORM.
3. SHOW WETLAND LIMITS BOLD (NOT SCREENED).
4. PLAN TO SHOW ALL PROJECT RELATED ITEMS INCLUDING (BUT NOT LIMITED TO):
   - CATCH BASINS - IDENTIFY IF CONTAINS A DEEP SUMP
   - OIL/WATER SEPARATORS
   - STORM DRAINAGE PIPES - TYPE, FLOW (Q) AND VELOCITY (V) AT PIPE OUTLETS (TYPICALLY, Q AND V ARE FOR A MAXIMUM EXPECTED 10-YEAR STORM. ROUNDING UP CAN ALLOW FOR ANY MINOR FUTURE CHANGES) INVERT ELEVATIONS FOR DRAINAGE OUTLETS AT RIPRAP APRONS ARE NOT REQUIRED.
   - CALL-OUT FOR OUTLET PROTECTION TYPE (RIPRAP APRON, SCOUR HOLE), AND RIPRAP/STREAMBED MATERIAL
   - CULVERT: CALL-OUT TYPE
   - FLOW ARROWS
   - TURF ESTABLISHMENT

   PROJECT FEATURES IN, OR REASONABLY ADJACENT TO, REGULATED AREAS SHOULD BE IDENTIFIED. CALL-OUTS DO NOT NEED TO BE EXACT D.O.T. PAY ITEM DESCRIPTION.
5. SHOW FISHERIES ENHANCEMENT (IF REQUIRED). INCLUDE NOTE "TO BE DIRECTED IN THE FIELD BY DEEP FISHERIES/OEP STAFF" (AS APPROPRIATE FOR PROJECT).
6. APPROPRIATE LEGEND
7. PLAN DATE (LATEST REVISION DATE OF SHEET. DATES DO NOT NEED TO MATCH WITHIN PLAN SET)

ENVIRONMENTAL PERMIT PLANS

PLAN DATE: APRIL 14, 2016

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/7/2016

DESIGNER/DRAFTER:

CHECKED BY:

SCALE IN FEET
0 20 40
SCALE 1"=20'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\GENERAL PLAN - ProJ XXX.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. XXXXX ROUTE X OVER A BROOK

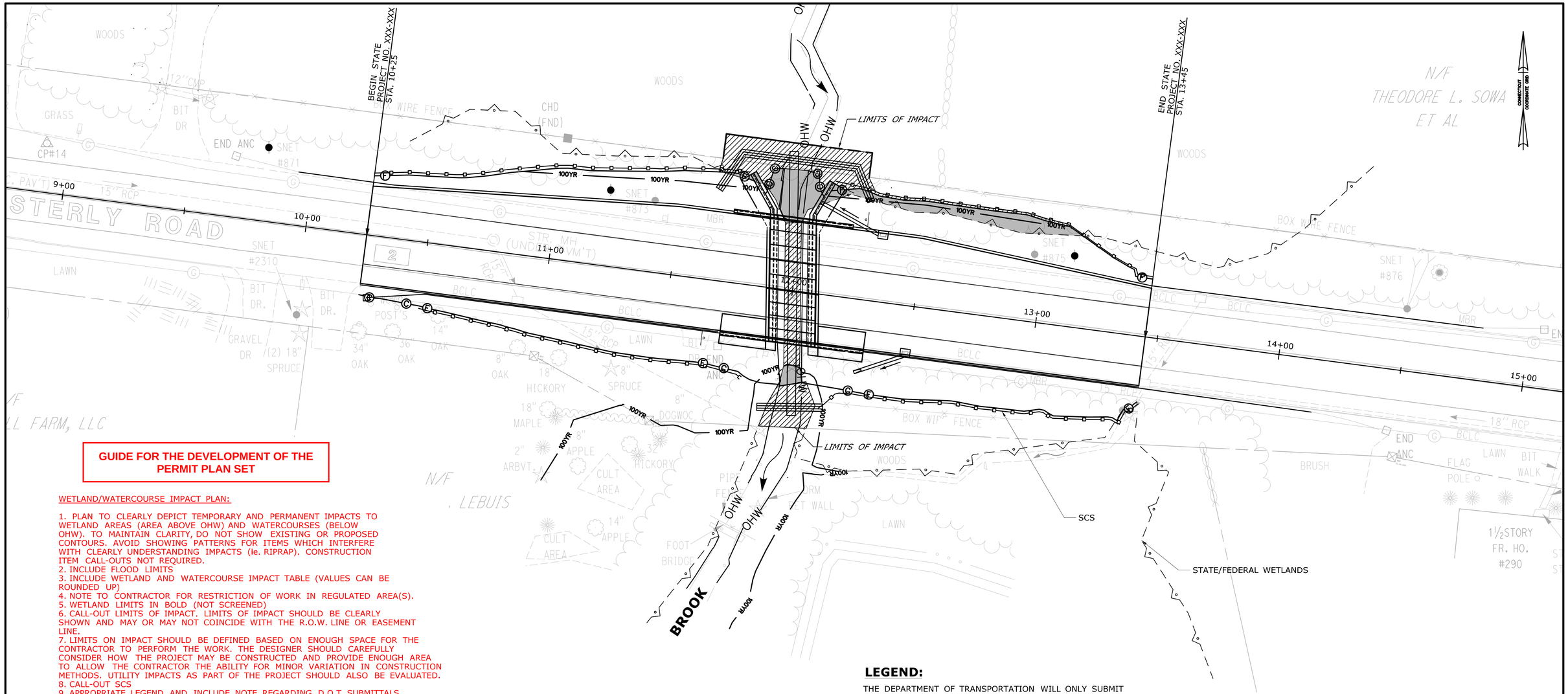
TOWN:
TOWN

DRAWING TITLE:
GENERAL SITE PLAN

PROJECT NO.
XXX-XXX

DRAWING NO.
PMT-02

SHEET NO.



GUIDE FOR THE DEVELOPMENT OF THE PERMIT PLAN SET

WETLAND/WATERCOURSE IMPACT PLAN:

1. PLAN TO CLEARLY DEPICT TEMPORARY AND PERMANENT IMPACTS TO WETLAND AREAS (AREA ABOVE OHW) AND WATERCOURSES (BELOW OHW). TO MAINTAIN CLARITY, DO NOT SHOW EXISTING OR PROPOSED CONTOURS. AVOID SHOWING PATTERNS FOR ITEMS WHICH INTERFERE WITH CLEARLY UNDERSTANDING IMPACTS (ie. RIPRAP). CONSTRUCTION ITEM CALL-OUTS NOT REQUIRED.
2. INCLUDE FLOOD LIMITS
3. INCLUDE WETLAND AND WATERCOURSE IMPACT TABLE (VALUES CAN BE ROUNDED UP)
4. NOTE TO CONTRACTOR FOR RESTRICTION OF WORK IN REGULATED AREA(S).
5. WETLAND LIMITS IN BOLD (NOT SCREENED)
6. CALL-OUT LIMITS OF IMPACT. LIMITS OF IMPACT SHOULD BE CLEARLY SHOWN AND MAY OR MAY NOT COINCIDE WITH THE R.O.W. LINE OR EASEMENT LINE.
7. LIMITS ON IMPACT SHOULD BE DEFINED BASED ON ENOUGH SPACE FOR THE CONTRACTOR TO PERFORM THE WORK. THE DESIGNER SHOULD CAREFULLY CONSIDER HOW THE PROJECT MAY BE CONSTRUCTED AND PROVIDE ENOUGH AREA TO ALLOW THE CONTRACTOR THE ABILITY FOR MINOR VARIATION IN CONSTRUCTION METHODS. UTILITY IMPACTS AS PART OF THE PROJECT SHOULD ALSO BE EVALUATED.
8. CALL-OUT SCS
9. APPROPRIATE LEGEND AND INCLUDE NOTE REGARDING D.O.T. SUBMITTALS FOR REVISIONS
10. PLAN DATE (LATEST REVISION DATE OF SHEET. DATES DO NOT NEED TO MATCH WITHIN PLAN SET)

NOTE:

THE CONTRACTOR SHALL NOT WORK WITHIN THE LIMITS OF THE WETLANDS AND WATERCOURSE WITH THE EXCEPTION OF THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACTS TO THE WETLANDS AND WATERCOURSE. ALL DISTURBED AREAS SHALL BE RESTORED.

WETLAND IMPACT TABLE

	WETLAND SITE NO.	WETLAND IMPACTS	WATERWAY IMPACTS	TOTAL
PERMANENT IMPACTS	1	705 S.F (0.016 AC.)	190 S.F. (0.004 AC.)	895 S.F (0.020 AC.)
TEMPORARY IMPACTS	1	1,025 S.F. (0.024 AC.)	695 S.F. (0.016 A.C)	1,720 S.F. (0.040 AC.)
TOTAL IMPACTS		1,730 S.F (0.040 AC.)	885 S.F. (0.020 AC.)	2,615 S.F. (0.060 AC.)

CAN ROUND VALUES UP

LEGEND:

THE DEPARTMENT OF TRANSPORTATION WILL ONLY SUBMIT REVISIONS TO THE DEEP FOR CHANGES TO THE DESIGN THAT WILL EFFECT THE NOTED REGULATED AREAS.

- TEMPORARY IMPACT
- PERMANENT IMPACT
- SEDIMENTATION CONTROL SYSTEM (SCS)
- 100YR — EXISTING 100-YEAR FLOOD (CALCULATED)
- OHW — ORDINARY HIGH WATER (OHW)
- STATE/FEDERAL WETLANDS

ENVIRONMENTAL PERMIT PLANS

PLAN DATE: APRIL 8, 2016

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/7/2016

DESIGNER/DRAFTER:

CHECKED BY:

SCALE IN FEET
0 20 40
SCALE 1"=20'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\WETLAND PLAN - Proj XXX.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE XXXXX
ROUTE X OVER A BROOK

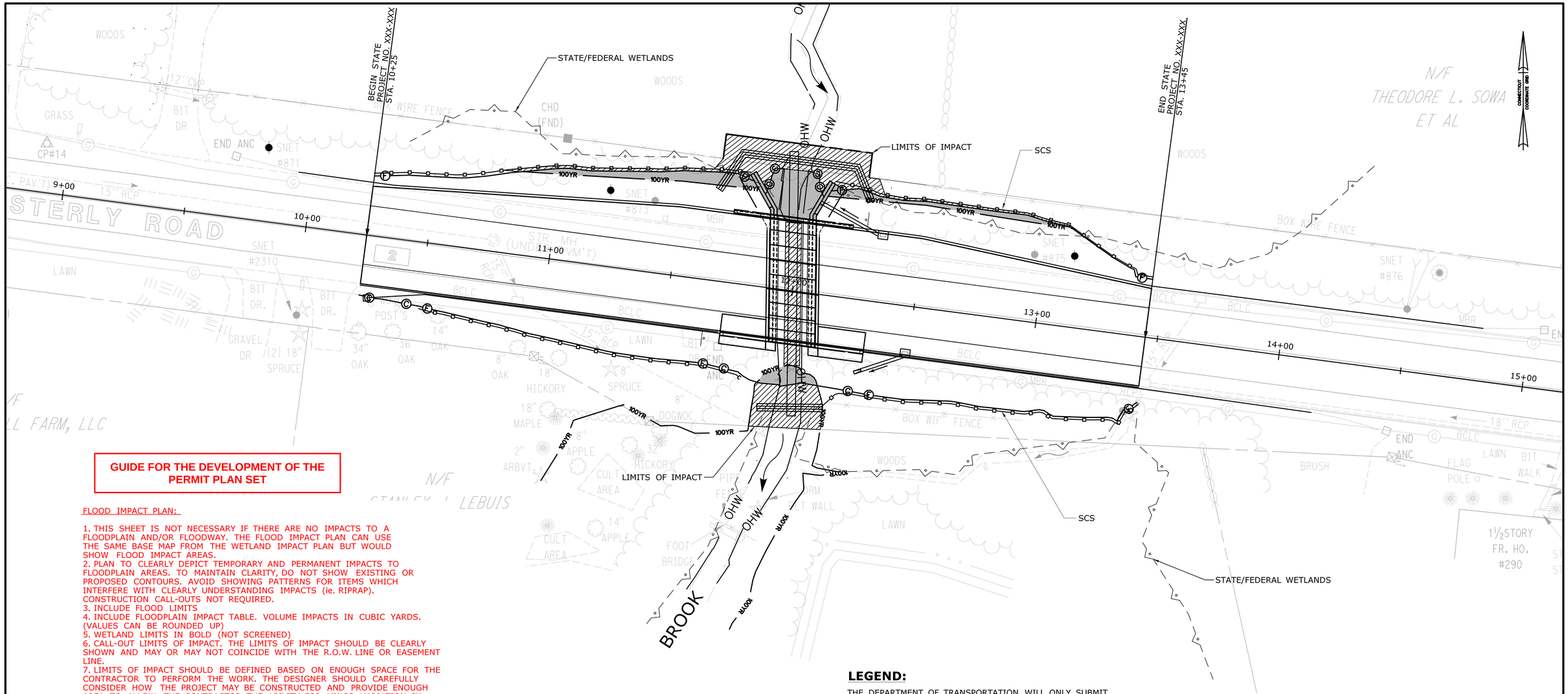
TOWN:
TOWN

DRAWING TITLE:
WETLAND/WATERCOURSE IMPACT PLAN

PROJECT NO.
XXX-XXX

DRAWING NO.
PMT-03

SHEET NO.



GUIDE FOR THE DEVELOPMENT OF THE PERMIT PLAN SET

FLOOD IMPACT PLAN:

1. THIS SHEET IS NOT NECESSARY IF THERE ARE NO IMPACTS TO A FLOODPLAIN AND/OR FLOODWAY. THE FLOOD IMPACT PLAN CAN USE THE SAME BASE MAP FROM THE WETLAND IMPACT PLAN BUT WOULD SHOW FLOOD IMPACT AREAS.
2. PLAN TO CLEARLY DEPICT TEMPORARY AND PERMANENT IMPACTS TO FLOODPLAIN AREAS. TO MAINTAIN CLARITY, DO NOT SHOW EXISTING OR PROPOSED CONTOURS. AVOID SHOWING PATTERNS FOR ITEMS WHICH INTERFERE WITH CLEARLY UNDERSTANDING IMPACTS (ie. RIPRAP). CONSTRUCTION CALL-OUTS NOT REQUIRED.
3. INCLUDE FLOOD LIMITS
4. INCLUDE FLOODPLAIN IMPACT TABLE. VOLUME IMPACTS IN CUBIC YARDS. (VALUES CAN BE ROUNDED UP)
5. WETLAND LIMITS IN BOLD (NOT SCREENED)
6. CALL-OUT LIMITS OF IMPACT. THE LIMITS OF IMPACT SHOULD BE CLEARLY SHOWN AND MAY OR MAY NOT COINCIDE WITH THE R.O.W. LINE OR EASEMENT LINE.
7. LIMITS OF IMPACT SHOULD BE DEFINED BASED ON ENOUGH SPACE FOR THE CONTRACTOR TO PERFORM THE WORK. THE DESIGNER SHOULD CAREFULLY CONSIDER HOW THE PROJECT MAY BE CONSTRUCTED AND PROVIDE ENOUGH AREA TO ALLOW THE CONTRACTOR THE ABILITY FOR MINOR VARIATION IN CONSTRUCTION METHODS. UTILITY IMPACTS AS PART OF THE PROJECT SHOULD ALSO BE EVALUATED.
8. CALL-OUT SCS
9. APPROPRIATE LEGEND AND INCLUDE NOTE REGARDING D.O.T. SUBMITTALS FOR REVISIONS
10. PLAN DATE (LATEST REVISION DATE OF SHEET. DATES DO NOT NEED TO MATCH WITHIN PLAN SET)

100-YEAR FLOODPLAIN AREA IMPACTS, CUT, & FILL INFORMATION			
AREA IMPACTS		VOLUME IMPACTS	
TEMPORARY IMPACT AREA	PERMANENT IMPACT AREA	EXCAVATION IN FEMA FLOODPLAIN	FILL IN FEMA FLOODPLAIN
1,970 S.F.	1,120 S.F.	175 C.Y.	155 C.Y.

CAN ROUND VALUES UP

LEGEND:

THE DEPARTMENT OF TRANSPORTATION WILL ONLY SUBMIT REVISIONS TO THE DEEP FOR CHANGES TO THE DESIGN THAT WILL EFFECT THE NOTED REGULATED AREAS.

- TEMPORARY IMPACT
- PERMANENT IMPACT
- SEDIMENTATION CONTROL SYSTEM (SCS)
- 100YR — EXISTING 100-YEAR FLOOD (CALCULATED)
- OHW — ORDINARY HIGH WATER (OHW)
- STATE/FEDERAL WETLANDS

ENVIRONMENTAL PERMIT PLANS

PLAN DATE: APRIL 8, 2016

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 6/7/2016

DESIGNER/DRAFTER:

CHECKED BY:

SCALE IN FEET
0 20 40
SCALE 1"=20'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FEMA IMPACT PLAN - Proj XXX.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE XXXXX ROUTE X OVER A BROOK

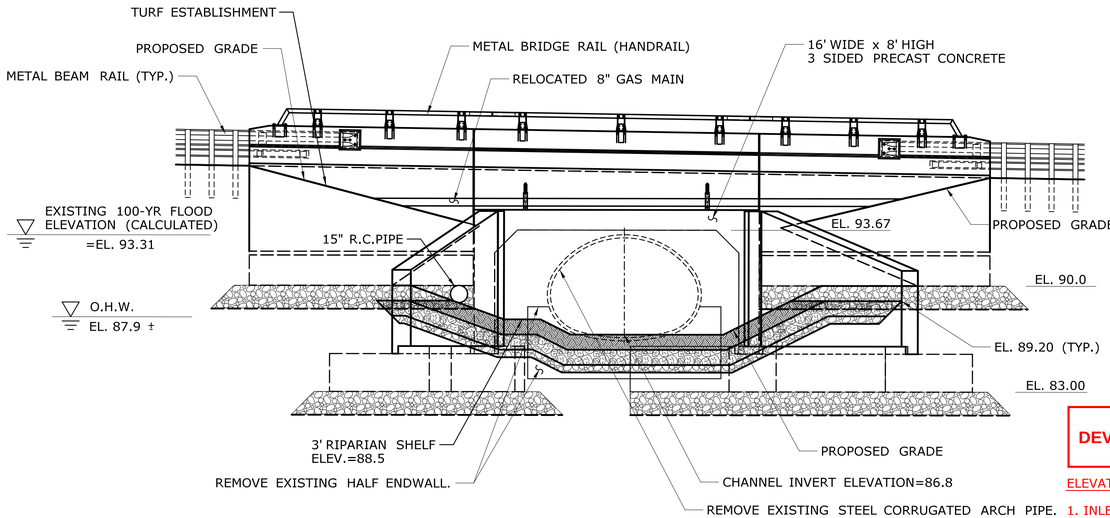
TOWN:
TOWN

DRAWING TITLE:
100-YEAR FLOOD IMPACT PLAN

PROJECT NO.
XXX-XXX

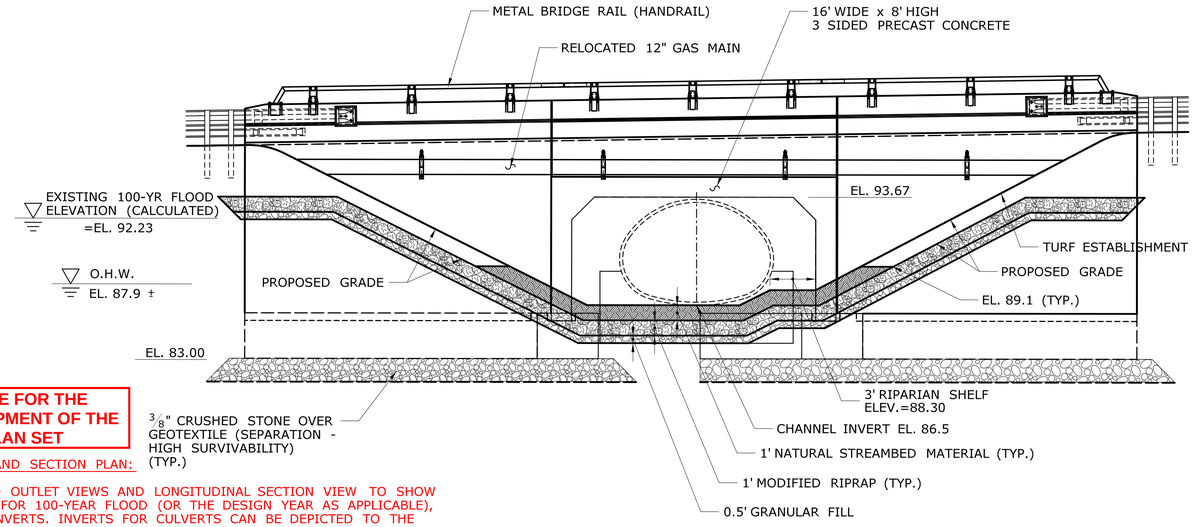
DRAWING NO.
PMT-04

SHEET NO.



INLET ELEVATION

1" = 5'



OUTLET ELEVATION

1" = 5'

3/8" CRUSHED STONE OVER GEOTEXTILE (SEPARATION - HIGH SURVIVABILITY) (TYP.)

GUIDE FOR THE DEVELOPMENT OF THE PLAN SET

ELEVATION AND SECTION PLAN:

1. INLET AND OUTLET VIEWS AND LONGITUDINAL SECTION VIEW TO SHOW ELEVATIONS FOR 100-YEAR FLOOD (OR THE DESIGN YEAR AS APPLICABLE), OHW, AND INVERTS. INVERTS FOR CULVERTS CAN BE DEPICTED TO THE TENTH (FOR EX. 98.1) TO ALLOW TOLERANCE WITH INSTALLATION.
2. TYPE OF BEDDING MATERIAL AND RIPRAP USED SHOULD BE SHOWN AND DEPTH CALLED OUT. FOR NATURAL STREAMBED MATERIAL, IDENTIFY TOP ELEVATION FOR PLACEMENT (TYPICALLY THE 2-YR STORM).
3. SHOW OPENNESS RATIO AND BANKFULL WIDTH CALCULATIONS (AS APPROPRIATE FOR PROJECT)
4. IF A WILDLIFE SHELF IS REQUIRED, CALL-OUT AND SPECIFY DIMENSIONS, ELEVATION, AND MATERIAL.
5. HYDRAULIC DATA TABLE AS APPROPRIATE FOR PROJECT.
6. SHEET DOES NOT NEED TO SHOW UNNECESSARY CONSTRUCTION NOTES AND COMMENTS. SHEET SHOULD SHOW ITEMS PERTINENT TO ENVIRONMENTAL PERMITTING.
7. PLAN DATE (LATEST REVISION DATE OF SHEET. DATES DO NOT NEED TO MATCH WITHIN PLAN SET)

OPENNESS RATIO (OR):

OR = OPEN AREA / CULVERT LENGTH
OR = 104 s.f / 51.5 ft. = 2.0 ft.
2.0 ft. > 0.82 ft. (RECOMMENDED MINIMUM)

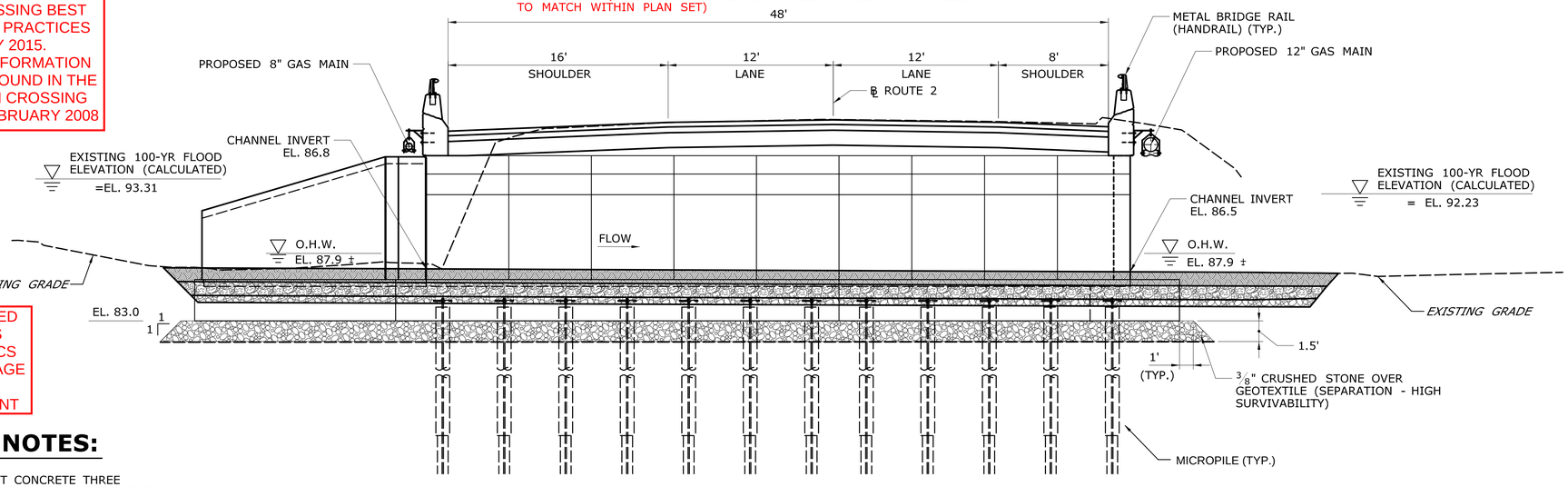
BANKFULL WIDTH (BFW):

BFW = 10 ft. EXISTING UPSTREAM (OHW)
1.2 x BFW = 12 ft.
12 ft. < 16 ft. PROPOSED CULVERT SPAN

INFORMATION FOR OPENNESS RATIO AND BANKFULL WIDTH CAN BE FOUND IN THE USACE STREAM CROSSING BEST MANAGEMENT PRACTICES JANUARY 2015. ADDITIONAL INFORMATION CAN ALSO BE FOUND IN THE DEEP STREAM CROSSING GUIDELINES FEBRUARY 2008

HYDRAULIC DATA	
DRAINAGE AREA	1.59 SQ. MILE
DESIGN FREQUENCY	100 YEAR
DESIGN DISCHARGE	521 CFS
AVERAGE DAILY FLOW ELEVATION	87.76 FT. ±
UPSTREAM DESIGN WATER SURFACE ELEVATION	93.31 FT. ±
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	92.23 FT. ±
MAXIMUM SCOUR ELEVATION	73.42 FT
FREQUENCY	500 YEAR
DISCHARGE	1,092 CFS
WORST CASE SCOUR SUBSTRUCTURE UNIT	WEST ABUTMENT

CALCULATED BY DOT'S HYDRAULICS AND DRAINAGE UNIT OR CONSULTANT



CULVERT SECTION

1" = 5'

NATIVE STREAMBED MATERIAL NOTES:

1. NATIVE STREAMBED MATERIAL EXCAVATED DURING THE PRECAST CONCRETE THREE SIDED RIGID FRAME INSTALLATION SHALL BE STOCKPILED AND THEN REPLACED WITHIN THE PRECAST CONCRETE THREE SIDED RIGID FRAME TO THE DEPTH SHOWN ON THE PLANS, AS DIRECTED BY THE ENGINEER, AND IN ACCORDANCE WITH THE PERMIT DOCUMENTS.
2. THE STOCKPILE SHALL BE LOCATED OUTSIDE THE WETLAND LIMITS AND PROTECTED WITH SEDIMENTATION CONTROL SYSTEM.

ENVIRONMENTAL PERMIT PLANS

PLAN DATE: APRIL 8, 2016

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/7/2016

DESIGNER/DRAFTER:

CHECKED BY:

SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\Elevations - Proj XXX.dgn

SIGNATURE/
BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. XXXXX ROUTE X OVER A BROOK

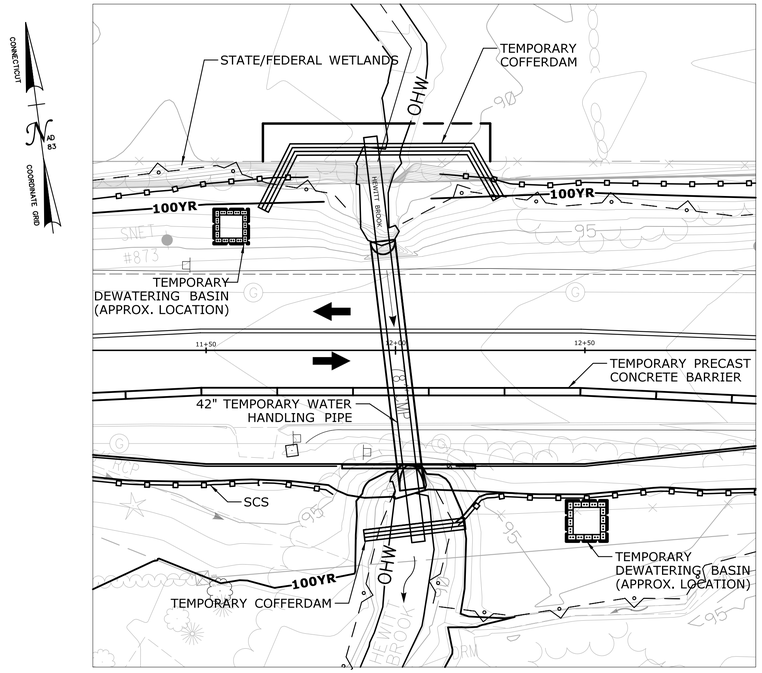
TOWN:
TOWN

DRAWING TITLE:
ELEVATION AND SECTION PLAN

PROJECT NO.
XXX-XXX

DRAWING NO.
PMT-05

SHEET NO.



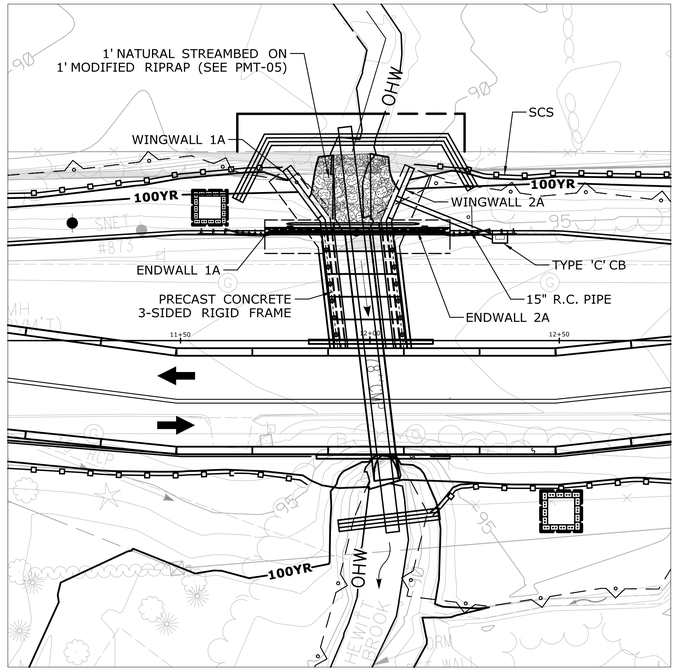
STAGE 1 - SUGGESTED SEQUENCE

1. INSTALL SEDIMENTATION CONTROL SYSTEM (SCS).
2. PLACE TEMPORARY BARRIER. CONSTRUCT TEMPORARY WIDENING.
3. CONSTRUCT TEMPORARY DEWATERING BASIN. BASIN TO REMAIN THROUGH ALL STAGES.
4. INSTALL TEMPORARY WATER HANDLING SYSTEM INCLUDING COFFERDAMS AND TEMPORARY PIPE. DIVERT WATER THROUGH THE TEMPORARY PIPE. WATER HANDLING TO REMAIN THROUGH ALL STAGES.

VALUES IN TABLE VARY AND ARE DEPENDENT UPON PROJECT SPECIFICS

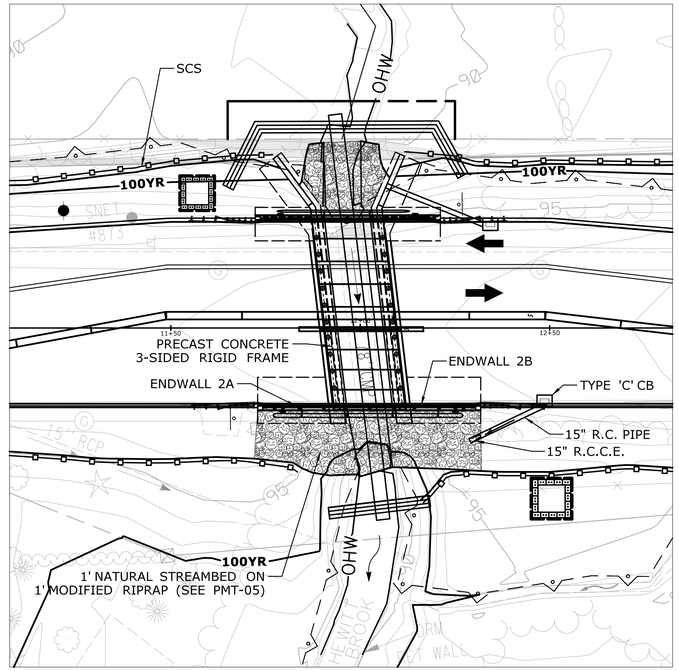
CALCULATED BY DOT's HYDRAULICS & DRAINAGE OR CONSULTANT

TEMPORARY HYDRAULIC DATA	
AVERAGE DAILY FLOW	3 CFS
AVERAGE SPRING FLOW	6 CFS
2-YEAR FREQUENCY DISCHARGE	46 CFS
TEMPORARY DESIGN DISCHARGE	46 CFS
TEMPORARY DESIGN FREQUENCY	2-YEAR FLOW
TEMPORARY WATER SURFACE ELEVATION UPSTREAM	90.62 FT
TEMPORARY WATER SURFACE ELEVATION DOWNSTREAM	89.02 FT



STAGE 2 - SUGGESTED SEQUENCE

1. EXCAVATE AND CONSTRUCT MICROPILES. CONSTRUCT STAGE 2 FOOTINGS.
2. PARTIALLY REMOVE TOP AND SIDE PORTIONS OF EXISTING CULVERT WHILE MAINTAINING WATER THROUGH THE TEMPORARY PIPE.
3. PARTIALLY CONSTRUCT THE FINAL CHANNEL OUTSIDE THE TEMPORARY PIPE.
4. ERECT STAGE 2 PRECAST CONCRETE THREE-SIDED FRAME UNITS.
5. COMPLETE WINGWALLS 1A AND 2A. CONSTRUCT ENDWALLS AND BACKFILL.
6. COMPLETE STAGE 2 ROADWAY CONSTRUCTION.
7. COORDINATE WITH EXISTING OVERHEAD UTILITIES TO RELOCATE POLES AS SHOWN PRIOR TO STAGE 3 CONSTRUCTION.
8. COORDINATE WITH UTILITY TO RELOCATE THEIR FACILITIES TO THE PREMANENT LOCATION ALONG THE OUTSIDE OF WINGWALLS 1A AND 2A.



STAGE 3 - SUGGESTED SEQUENCE

1. RELOCATE TEMPORARY PRECAST BARRIER AND SHIFT TRAFFIC.
2. EXCAVATE AND CONSTRUCT MICROPILES. CONSTRUCT STAGE 3 FOOTINGS.
3. PARTIALLY REMOVE TOP AND SIDE PORTIONS OF EXISTING CULVERT WHILE MAINTAINING WATER THROUGH THE TEMPORARY PIPE.
4. PARTIALLY CONSTRUCT THE FINAL CHANNEL OUTSIDE THE TEMPORARY PIPE.
5. ERECT STAGE 3 PRECAST CONCRETE THREE-SIDED FRAME UNITS.
6. COMPLETE ENDWALLS 2A AND 2B AND BACKFILL.
7. COMPLETE STAGE 3 ROADWAY CONSTRUCTION.
8. REMOVE THE REMAINING PORTION OF THE EXISTING CULVERT AND COMPLETE CHANNEL CONSTRUCTION. INSTALL RIPRAP OUTLET.
9. REMOVE TEMPORARY WATER HANDLING FACILITIES.
10. COORDINATE WITH GAS COMPANY TO RELOCATE FACILITIES TO THE PERMANENT LOCATION ALONG THE SOUTH FASCIA.
11. REMOVE EROSION AND SEDIMENTATION CONTROL UPON PERMANENT STABILIZATION.

WATER HANDLING NOTES:

1. THE CONTRACTOR SHALL MAINTAIN WATER THROUGH THE TEMPORARY BYPASS PIPE AS SHOWN DURING CONSTRUCTION OF THE NEW STRUCTURE.
2. EQUIPMENT SHALL NOT BE PERMITTED IN THE STREAM WHEN TEMPORARY BYPASS PIPE IS NOT IN PLACE WIHOUT APPROVAL FROM THE ENGINEER.
3. A PUMP DISCHARGE BASIN SHALL BE ESTABLISHED OUTSIDE OF THE WETLAND LIMITS. THE LOCATION OF THE DEWATERING BASIN IS APPROXIMATE. THE EXACT POSITION MAY VARY BASED ON THE PUMPING DESIGN SUBMISSION AND APPROVED BY THE ENGINEER.
4. TEMPORARY COFFERDAM SHALL CONSIST OF PLASTIC LINER, SANDBAGS, OR ANY OTHER APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA, SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND EXCAVATION, AND SHALL CONFORM TO PERMITS.

GUIDE FOR THE DEVELOPMENT OF THE PERMIT PLAN SET

STAGING/WATER HANDLING PLAN:

1. THE PURPOSE OF THIS PLAN SHEET IS TO SHOW THE REGULATING AGENCY THE GENERAL INTENDED SCHEME FOR CONSTRUCTION/STAGING OF THE PROJECT AND ALSO THE METHOD(S) INTENDED FOR WATER HANDLING. IT IS EXPECTED THAT MORE DETAILED PLANS MAY BE DEVELOPED FOR FINAL CONSTRUCTION AND ALSO SUBMITTED BY THE CONTRACTOR. IT IS INTENDED THAT THESE PERMIT PLANS BE GENERAL ENOUGH THAT LATER PLANS CAN COMPLY WITH THE INTENT OF THE PERMIT PLANS.
2. SEQUENCING STATES THE BASIC INFORMATION FOR CONSTRUCTION OF THE PROJECT.
3. FOR HANDLING OF THE STREAM, SHOW APPROXIMATE LOCATION OF WATER HANDLING TO BE INCLUDED IN THE STAGING. CALL-OUT SIZE OF TEMPORARY PIPE FOR GRAVITY FLOW (OR MINIMUM CHANNEL WIDTH, IF APPLICABLE). CALL-OUT THE HOSE IF PUMPING.
4. SHOW LOCATION OF DEWATERING BASIN (IF NEEDED). LOCATION SHALL BE OUTSIDE OF WETLAND AREA AND, IF POSSIBLE, OUTSIDE OF THE FLOOD LIMITS.
5. PROVIDE CALL-OUTS FOR ITEM BEING CONSTRUCTED DURING THE SPECIFIC STAGE.
6. INCLUDE COFFERDAM DETAIL SHOWING DESIGN FREQUENCY ELEVATION AND PROPOSED TOP OF COFFERDAM. (COFFERDAM DETAIL IS NOT REQUIRED TO BE SANDBAGS)
7. INCLUDE TEMPORARY HYDRAULIC DATA TABLE AS APPROPRIATE FOR PROJECT.
8. PLAN DATE (LATEST REVISION DATE OF SHEET. DATES DO NOT NEED TO MATCH WITHIN PLAN SET)

LEGEND

- SEDIMENTATION CONTROL SYSTEM (SCS)
- OHW — ORDINARY HIGH WATER (OHW)
- STATE/FEDERAL WETLANDS
- 100YR — EXISTING 100-YR FLOOD ELEVATION (CALCULATED)

ENVIRONMENTAL PERMIT PLANS

PLAN DATE: APRIL 8, 2016

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 6/7/2016

DESIGNER/DRAFTER:

CHECKED BY:

SCALE IN FEET 0 20 40

SCALE 1"=20'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\Staging Plan - Proj XXX.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. XXXXX
ROUTE X OVER A BROOK

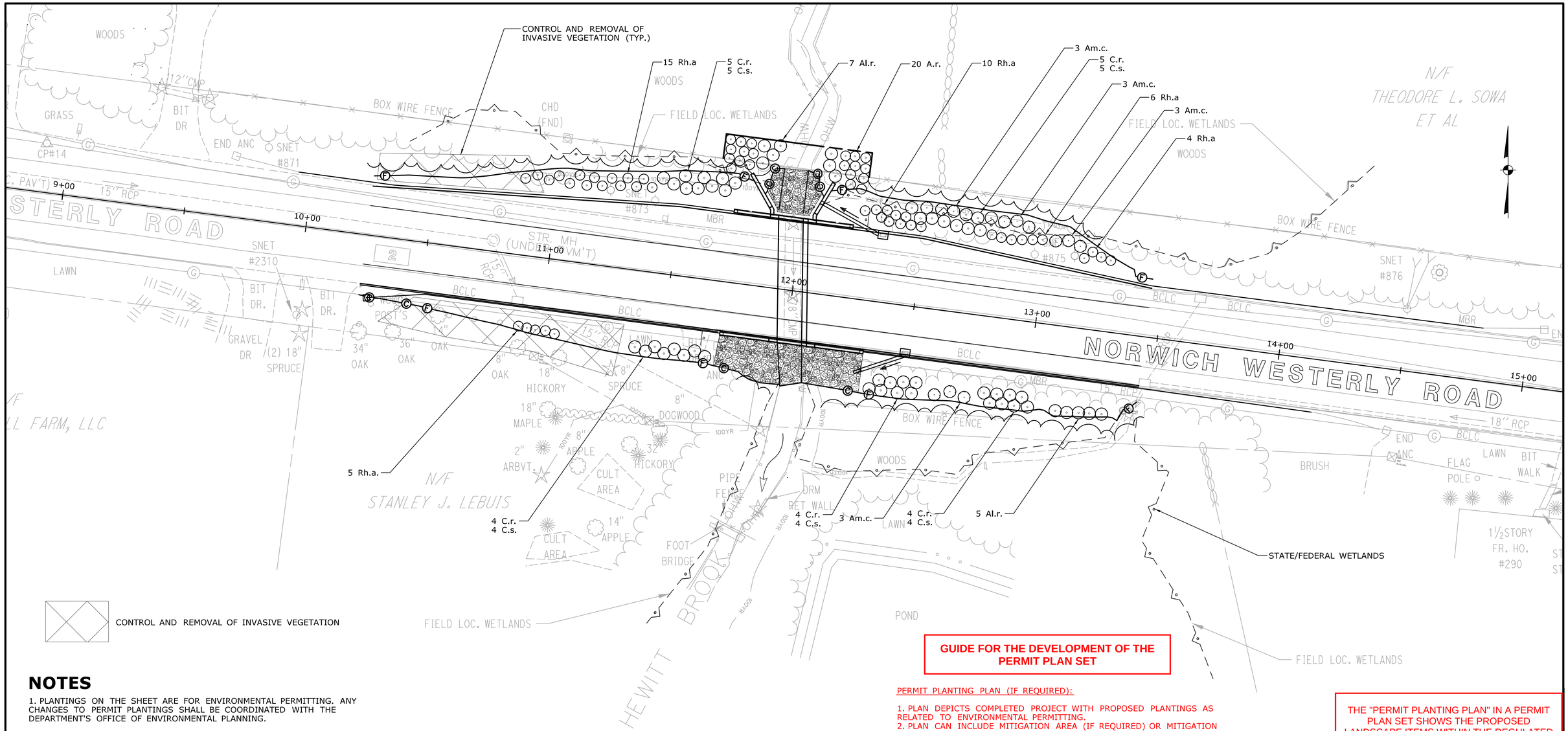
TOWN:
TOWN

DRAWING TITLE:
STAGING/ WATER HANDLING PLAN

PROJECT NO.
XXX-XXX

DRAWING NO.
PMT-06

SHEET NO.



CONTROL AND REMOVAL OF INVASIVE VEGETATION

NOTES

1. PLANTINGS ON THE SHEET ARE FOR ENVIRONMENTAL PERMITTING. ANY CHANGES TO PERMIT PLANTINGS SHALL BE COORDINATED WITH THE DEPARTMENT'S OFFICE OF ENVIRONMENTAL PLANNING.

2. WOOD CHIP MULCH SHALL NOT BE PLACED IN THE WETLAND AREA.

3. DISTURBED AREAS BELOW THE WETLAND LIMIT SHALL BE SEEDED WITH A WETLAND SEED MIX. DISTURBED AREAS ABOVE THE WETLAND LIMIT SHALL BE COVERED WITH A WOOD CHIP MULCH OR A CONSERVATIVE SEED MIX. ALL DISTURBED AREAS SHALL BE RESTORED.

MUST BE NATIVE PLANTS ON PERMIT PLAN SET

SIZE TO MATCH DOT MASTER BID ITEM LIST

PERMIT PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	SPACING	COMMENTS	WETLAND INDICATOR
Al.r.	Alnus incana	Speckled Alder	4'-5' Ht. B.B.	12	6' On Center		FACW
Am.c.	Amelanchier canadensis	Service-Berry	4'-5' Ht. B.B.	12	6' On Center		FAC
A.r.	Acer Rubrum	Red Maple	3'-4' Ht. Whips B.R.	20	5' On Center		FAC
C.r.	Cornus racemosa	Gray Dogwood	2'-3' Ht. B.B.	22	5' On Center		FAC
C.s.	Cornus alba	Red Osier	24"-36" Ht. B.B.	22	5' On Center		FACW
Rh.a.	Rhus aromatica	Fragrant Sumac	18"-24" Ht. B.B.	40	4' On Center		UPL
	Wood Chip Mulch			320 S.Y.			

GUIDE FOR THE DEVELOPMENT OF THE PERMIT PLAN SET

PERMIT PLANTING PLAN (IF REQUIRED):

1. PLAN DEPICTS COMPLETED PROJECT WITH PROPOSED PLANTINGS AS RELATED TO ENVIRONMENTAL PERMITTING.
2. PLAN CAN INCLUDE MITIGATION AREA (IF REQUIRED) OR MITIGATION PLAN MAY BE SEPARATE.
3. PERMIT PLANT LIST TABLE, WHICH IS TO INCLUDE THE PLANT'S WETLAND RATING (INDICATOR).
4. PLAN MAY INCLUDE INVASIVE SPECIES CONTROL (REQUIRED FOR USACE CATEGORY 2 PERMITS). USE APPROPRIATE HATCHING AND IDENTIFY IN LEGEND.
5. NOTE STATING "WOOD CHIP MULCH SHALL NOT TO BE PLACED IN THE WETLAND AREA".
6. NOTE STATING "DISTURBED AREAS BELOW THE WETLAND LIMIT SHALL BE SEEDED WITH A WETLAND SEED MIX. DISTURBED AREAS ABOVE THE WETLAND LIMIT SHALL BE COVERED WITH A WOOD CHIP MULCH OR A CONSERVATION SEED MIX. ALL DISTURBED AREAS SHALL BE RESTORED".
7. DESIGNER SHOULD ENSURE IN THE LAYOUT THAT NO TREES (TALL WHEN MATURE) ARE PLACED UNDER UTILITY LINES.

THE "PERMIT PLANTING PLAN" IN A PERMIT PLAN SET SHOWS THE PROPOSED LANDSCAPE ITEMS WITHIN THE REGULATED AREA/DISTURBED WETLANDS. ADDITIONAL ITEMS NOT IN THE REGULATED AREA/DISTURBED WETLANDS MAY BE SHOWN AT THE DISCRETION OF THE LANDSCAPE DESIGNER.

A "MITIGATION PLANTING PLAN" IS CREATED ONLY WHEN REQUIRED BY A REGULATING AGENCY. IF REQUIRED, A COORDINATION MEETING SHALL BE SCHEDULED WITH THE LANDSCAPE DESIGN UNIT, OEP, AND/OR OTHER UNITS INVOLVED IN THE PROJECT.

ENVIRONMENTAL PERMIT PLANS

PLAN DATE: APRIL 8, 2016

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 6/7/2016

DESIGNER/DRAFTER:

CHECKED BY:

SCALE IN FEET
0 20 40
SCALE 1"=20'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\LDS_Project XXX_PMT_07.DGN

SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. XXXXX
ROUTE X OVER A BROOK

TOWN:
TOWN

DRAWING TITLE:
PERMIT PLANTING PLAN

PROJECT NO.
XXX-XXX

DRAWING NO.
PMT-07

SHEET NO.